

**What is claimed is:**

1. A method of using a catheter system to perform medical procedures, said catheter system including a guide catheter configured to receive inner catheters therein, comprising the steps of:

(a) performing initial medical procedures with said catheter system until an original inner catheter located within said guide catheter becomes dysfunctional, wherein (i) said initial medical procedures performed during step (a) are respectively separated in time by interim time periods, and (ii) said original inner catheter is retained within said guide catheter during said interim time periods; and

(b) performing a subsequent medical procedure with said catheter system after step (a), wherein a replacement inner catheter is located in said guide catheter during step (b); and

(c) removing said replacement inner catheter from said guide catheter after step (b).

2. The method of claim 1, further comprising the step of placing a cap on a proximal end of said guide catheter after step (c).

3. The method of claim 1, further comprising the step of placing a mandrel assembly within said guide catheter after step (c).

4. The method of claim 1, wherein the medical procedure is selected from the following group: a hemodialysis procedure, a peritoneal dialysis procedure, a plasmapheresis procedure, a TPN administration procedure, a blood transfusion procedure, and a blood sampling procedure.

5. A method of using a catheter system to perform medical procedures, said catheter system including a guide catheter configured to receive inner catheters therein, comprising the steps of:

(a) performing initial medical procedures with said catheter system until an original inner catheter located within said guide catheter becomes dysfunctional, wherein (i) said initial medical procedures performed during step (a) are respectively separated in time by interim time periods, and (ii) said original inner catheter is retained within said guide catheter during said interim time periods; and

(b) performing subsequent medical procedures after step (a) with said catheter system having any one of a number of replacement inner catheters located with said guide catheter, wherein said any one of said number of replacement inner catheter is removed from said guide catheter after each of said subsequent medical procedures is performed during step (b).

6. The method of claim 5, wherein the medical procedure is selected from the following group: a hemodialysis procedure, a peritoneal dialysis procedure, a plasmapheresis procedure, a TPN administration procedure, a blood transfusion procedure, and a blood sampling procedure.

7. A method of using a catheter system to perform medical procedures, said catheter system including a guide catheter configured to receive inner catheters therein, comprising the steps of:

(a) performing initial medical procedures with said catheter system until an original inner catheter located within said guide catheter becomes dysfunctional, wherein (i) said initial medical procedures performed during step (a) are respectively separated in time by initial interim time periods, and (ii) said original inner catheter is retained within said guide catheter during said initial interim time periods; and

(b) performing a first subsequent medical procedure with said catheter system after step (a), wherein a first replacement inner catheter is located in said guide catheter during step (b);

(c) removing said first replacement inner catheter from said guide catheter after completion of said first subsequent medical procedure;

(d) advancing a second replacement inner catheter into said guide catheter after step (c); and

(e) performing a second subsequent medical procedure with said catheter system after step (d), wherein said second replacement inner catheter is located in said guide catheter during step (e).

8. The method of claim 7, wherein said first replacement catheter is not located within said guide catheter during a first subsequent interim time period which exists between steps (c) and (d).

9. The method of claim 7, further comprising the step of placing a cap on a proximal end of said guide catheter after step (c).

10. The method of claim 9, wherein:

wherein a first subsequent interim time period exists between steps (c) and (d), and

said cap is retained on said proximal end of said guide catheter during said  
5 first subsequent time interim period.

11. The method of claim 7, further comprising the step of placing a mandrel assembly within said guide catheter after step (c).

12. The method of claim 11, wherein:

wherein a first subsequent interim time period exists between steps (c) and (d), and

said mandrel assembly is retained within said guide catheter during said  
15 first subsequent time interim period.

13. The method of claim 7, wherein the medical procedure is selected from the following group: a hemodialysis procedure, a peritoneal dialysis procedure, a plasmapheresis procedure, a TPN administration procedure, a blood transfusion procedure, and a blood sampling procedure.

14. The method of claim 7, further comprising the step of disrupting occlusive material formed on a distal end portion of said guide catheter between steps (a) and (b).

15. The method of claim 14, wherein said disrupting step is performed with an instrument selected from the following group: a pig-tailed catheter and a balloon catheter.

16. The method of claim 7, wherein:

said original inner catheter possesses a first length,

said first replacement inner catheter possesses a second length, and

said second length is greater than said first length.